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EXAMINER

LEE, PHILIP C

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/726,766

Applicant(s)

DAVIDSON ET AL.

Examiner

Philip C. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-24,26-33 and 35-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-24,26-33 and 35-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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1. This action is responsive to the amendment and remarks filed on 07/08/2005.
2. Claims 1, 3-24, 26-33 and 35-45 are presented for examination.
3. The text of those sections of Title 35, U.S. code not included in this office action can be found in a prior office action.

Claim Rejections – 35 USC 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 12-18 and 42 of the claimed invention is directed to non-statutory subject matter because a computer readable medium can be a carrier wave or a signal.

Claim Rejections – 35 USC 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 12-13, 19-20, 24, 33 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, U.S. Patent Application Publication 2001/0030977 (hereinafter May) in view of Shukla, U.S. Patent Application Publication 2002/0042875 (hereinafter Shukla) and Araujo et al, U.S. Patent 6,301,229 (hereinafter Araujo).

8. May, Shukla and Araujo were cited in the last office action.

9. As per claims 1 and 12, May taught the invention substantially as claimed for communicating with an element within an enterprise network, comprising:

at a first client, converting a first point-to-point protocol signal (e.g. PPP packet) into a network address request protocol packet (e.g. DHCP) (page 4, paragraph 49), the first point-to-point protocol signal comprising a point-to-point protocol header that includes an identifier of a second client (inherently comprised in the PPP packet).

10. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion

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between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibility of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

12. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system comprising:

communicating the encapsulated signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38).

13. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

14. As per claim 19, May taught the invention substantially as claimed, the method comprising:

at a first client, generating point-to-point protocol signal (page 4, paragraph 49); and
converting the point-to-point protocol signal (e.g. PPP packet) into a network address request protocol packet (e.g. DHCP) (page 4, paragraph 49).

15. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

16. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibility of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

17. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system for tunneling in an enterprise network comprising a

plurality of clients coupled to a tunneling server (col. 8, lines 66-col. 9, lines 8) by at least one router (col. 7, lines 17-31), the system comprising:

communicating the encapsulated signal toward a tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38) operable to identify and remove the protocol header (col. 13, lines 37-47), to encapsulate the point-to-point protocol signal within a protocol response header, and to communicate the encapsulated response signal toward a second client (col. 13, lines 34-36, 48-56).

18. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

19. As per claims 24 and 37, May taught the invention substantially as claimed comprising: a protocol stack operable to generate a first point-to-point protocol signal (page 4, paragraph 49) comprising a point-to-point protocol header that includes an identifier of a second client (inherently comprised in the PPP packet); a module operable to convert the first point-to-point encapsulated signal (e.g. PPP packet that inherently comprised a PPP header) into a network address request protocol packet comprising a Dynamic Host Configuration Protocol (page 4, paragraph 49) (It is inherent that DHCP comprised of DHCP DISCOVERY); and

forwarding the network address request to the tunneling server without reference to the routing table. (It is inherent that referencing to the routing table will not be necessary because the packet is a DHCP DISCOVERY packet).

20. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

21. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibility of May's system by allowing each layer to package a signal according to the various protocol recommended by the Open System Interconnect (OSI) for network communication.

22. May and Shukla did not teach communicating the encapsulated signal toward a tunneling server. Araujo taught a similar system comprising at least one client coupled to a tunneling server by a router having a routing table indexed by data channel addresses (fig. 1) wherein the first client is operable to communicate the protocol request encapsulated signal toward the router for forwarding to the tunneling server (col. 9, lines 34-36; col. 6, lines 1-3, 32-38).

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of communicating the encapsulated signal toward a tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

24. As per claim 33, May taught the invention substantially as claimed comprising:
a module operable to receive a first point-to-point protocol signal converted within a network address protocol (page 4, paragraph 49), the first point-to-point protocol signal comprising a point-to-point protocol header includes an identifier of the client (inherently comprised in the PPP packet), the network address response (It is inherent that DHCP comprised of DHCP OFFER).

25. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3).

26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May and Shukla because Shukla's teaching of each

protocol layer encapsulating its own header before transmitting to the next layer would ensure the compatibility of May's system by allowing each layer to package a signal according to the various protocols recommended by the Open System Interconnect (OSI) for network communication.

27. May and Shukla did not teach removing the protocol response header and a private protocol stack. Araujo taught a similar system wherein a client (element 10, fig. 1) having an enterprise protocol stack operable to process signals received from a data channel and associated with a data channel address (col. 3, lines 11-24), comprising

a tunneling module to remove the protocol response header to expose the first point-to-point protocol signal (col. 3, lines 21-26); and

a private protocol stack operable to receive the first point-to-point protocol signal from the tunneling module and to communicate at least a portion of a payload of the first point-to-point protocol signal to a socket layer coupled to an application residing at the client (col. 3, lines 21-26, 40-43; col. 4, lines 41-46).

28. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla and Araujo because Araujo's method of removing the protocol response header would improve the management of data flow of May's and Shukla's systems by allowing the packet to be decapsulated according to the Open System Interconnect (OSI) before forwarding to higher layer processing (col. 4, lines 41-46).

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29. As per claims 3, 13 and 20, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 12 and 19 above. Araujo further taught wherein communicating the encapsulated signal toward a tunneling server comprises communicating the signal toward a router configured to relay network address requests to the tunneling server (col. 7, lines 17-31) without referencing a routing table indexed by data channel addresses (see May, page 3, paragraph 46; page 4, paragraph 49) (it is inherent that referencing to the routing table will not be necessary because the packet is a DHCP DISCOVERY packet).

30. Claims 4, 10-11, 14, 18, 21, 23, 28-29, 31-32, 38 and 41-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla, and Araujo in view of Inoue et al, U.S. Patent Application Publication 2002/0007414 (hereinafter Inoue).

31. Inoue was cited in the last office action.

32. As per claims 4, 14, 21, 28-29 and 41-45, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 3, 12-13, 20, 24 and 33 above. May, Shukla and Araujo did not teach a control channel address being different from channel address recognized by the router. Inoue taught wherein the identifier comprises a control channel address of the second client, the control channel address being different from any data channel address recognized by the router (page 7, paragraph 84).

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33. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of a control channel address being different from channel address recognized by the router would increase the routing functionality of May's, Shukla's and Araujo's systems by allowing a router to relay packet based on the protocol field of the packet even if the control channel address is unrecognized by the router (page 7, paragraph 84).

34. As per claims 10, 18, 23 and 31, May, Shukla and Araujo taught the invention substantially as claimed in claims 1, 12, 19 and 24 above. May, Shukla and Araujo did not teach receiving from the tunneling server, the encapsulated response signal with a second point-to-point signal and encapsulated within a network address response header. Inoue taught comprising receiving an encapsulated response signal from the tunneling server, the encapsulated response signal comprising a second point-to-point protocol signal responsive to the first point-to-point protocol signal and encapsulated within a network address response header (page 7, paragraph 96).

35. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of receiving the encapsulated response signal from the tunneling server would improve the management of data flow in May's and Shukla's systems by allowing transmission in a communication channel according to the tunneling protocol (col. 2, lines 45-52).

36. As per claims 11 and 32, May, Shukla, Araujo and Inoue taught the invention substantially as claimed in claims 10 and 31 above. Inoue further taught wherein the network address response header comprises a Dynamic Host Configuration Protocol OFFER header or a Bootstrap Protocol RESPONSE header (page 7, paragraphs 82 and 96).

37. As per claim 38, May, Shukla and Araujo taught the invention substantially as claimed in claims 37 above. May, Shukla and Araujo did not specifically teach a Dynamic Host Configuration Protocol DISCOVER header. Inoue taught wherein the network address request header comprises a Dynamic Host Configuration Protocol DISCOVER header or a Bootstrap Protocol REQUEST header (page 7, paragraphs 82 and 96).

38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Inoue because Inoue's teaching of encapsulating a dynamic host configuration protocol request would increase the alertness of May's, Shukla's and Araujo's systems by providing the recognition that the IP address is to be acquired by the DHCP on behalf of the client (page 7, paragraph 84).

39. Claims 5-7, 15-16, 30 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla and Araujo in view of Singhal et al, U.S. Patent 6,633,761(hereinafter Singhal).

40. Singhal was cited in the last office action.

41. As per claims 5 and 15, May, Shukla and Araujo taught the invention substantially as claimed in claims 1 and 12 above. May, Shukla and Araujo did not teach a payload with information to be applied to an application at the second client. Singhal taught wherein the first point-to-point protocol signal comprises a payload including information to be applied to an application residing at a second client (col. 9, lines 60-62).

42. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of a payload with information to be applied to an application residing at a second client would increase the flexibility of May's, Shukla's and Araujo's systems by allowing an administrator to remotely transfer information to a client over the network.

43. As per claims 6, 30 and 35, Singhal further taught wherein the application residing at the second client comprises a maintenance application operable to diagnose operational characteristics of the second client (col. 14, lines 3-6).

44. As per claims 7 and 16, May, Shukla and Araujo taught the invention substantially as claimed in claims 1 and 12 above. May, Shukla and Araujo did not teach a payload with at least a portion of an application to be installed on the second client. Singhal taught wherein the first point-to-point protocol signal comprises a payload including at least a portion of an application to be installed on the second client (col. 9, lines 60-62).

45. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of a payload with information to be applied to an application residing at a second client would increase the flexibility of May's, Shukla's and Araujo's systems by allowing an administrator to remotely transfer information to a client over the network.

46. As per claim 36, May, Shukla and Araujo taught the invention substantially as claimed in claim 33 above. May, Shukla and Araujo did not teach an application to process the at least a portion of the payload and to generate an output. Singhal taught wherein the application comprises an application operable to process the at least a portion of the payload and to generate an output to be communicated toward another network element (col. 9, lines 60-62; col. 14, lines 1-12).

47. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Singhal because Singhal's system of process the at least a portion of the payload and to generate an output would increase the efficiency of May's, Shukla's and Araujo's systems by providing automatic information updates to registry of different devices.

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48. Claims 8-9, 17, 22, 26-27 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over May, Shukla and Araujo in view of Zhang, U.S. Patent 6,108,345 (hereinafter Zhang).

49. Zhang was cited in the last office action.

50. As per claims 8, 17, 22, 26 and 39, Although, May, Shukla and Araujo taught encapsulating the first point-to-point protocol signal within a MAC header with MAC identifier prior to encapsulating the first point-to-point protocol signal within the network request header (see May, page 3, paragraph 47; page 4, paragraph 52), however, May, Shukla and Araujo did not specifically detailing the header encapsulated prior to the DHCP header is a tunneling header. Zhang taught a tunneling header comprising a header with a MAC identifier (col. 10, lines 16-23).

51. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of May, Shukla, Araujo and Zhang because Zhang's teaching of encapsulated tunneling header would increase the efficiency of May's, Shukla's and Araujo's systems by allowing the process of address determination to be included in a packet in a point-to-point tunnel session.

52. As per claims 9, 27 and 40, May, Shukla, Araujo and Zhang taught the invention substantially as claimed in claims 8, 26 and 39 above. Araujo further taught wherein the

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tunneling header comprises a tunneling header selected from the group consisting of a Layer Two Tunneling Protocol (L2TP) header, a Point-to-Point Tunneling Protocol (PPTP), or a Layer Two Forwarding (L2F) header (col. 5, lines 1-4; col. 9, lines 4-15).

53. Applicant's arguments with respect to claims 1, 3-24, 26-33 and 35-45, filed 07/08/2005, have been fully considered but are not deemed to be persuasive.

54. In the remarks applicant argued that:

- (1) the cited references do not teach encapsulating a first point-to-point protocol signal within a network address request header.
- (2) Inoue does not teach a control channel address that is different from any data channel address as claimed in claim 4.

55. In response to point (1), May taught converting packets from the point-to-point protocol (i.e. PPP) format (note that packets of PPP format must be a PPP signal comprising a PPP header that includes an identifier of a second client or destination) into the Dynamic Host Configuration Protocol (i.e. DHCP) format as the packets is relayed from the PPP layer to the DHCP layer (page 4, paragraph 49, lines 9-12).

56. May did not specifically detailing the packet conversion between the point-to-point layer and the network address protocol layer (i.e. DHCP layer) comprises encapsulating the point-to-point signal (e.g. PPP packet) within a network address request header. Shukla taught that the

packet conversion between protocol layers comprises each protocol layer encapsulating its own header before transmitting to the next layer (page 1, paragraph 3). Therefore, the combination of May's and Shukla's teachings taught the DHCP layer (i.e. network address protocol layer) encapsulating its own header (i.e. DHCP header) to packets from the PPP layer (i.e. PPP signal with PPP header) in order to convert packets of the PPP format into the DHCP format.

57. In response to point (2), at most, the limitation of claim 4 is interpreted as an identifier (i.e. control channel address) different from the address (i.e. data channel address) recognized by the router. Inoue taught a packet relay device (i.e. router) routing a packet based on protocol field as being a DHCP request (page 7, paragraph 84). Thus, the packet relay device (i.e. router) is routing based on protocol field, which is different from the address (i.e. data channel address) recognized by the router. (Note that the data channel address recognized by the packet relay device (i.e. router) as being MAC or IP addresses). Inoue taught the invention substantially as claimed in claim 4, wherein the identifier (i.e. control channel address) that is different from any data channel address (i.e. MAC or IP addresses) recognized by the router (page 7, paragraph 84).

56. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

57. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Lee whose telephone number is (571) 272-3967. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-9600.


ZARNI MAUNG
SUPERVISORY PATENT EXAMINER